Fibre union material with hollow fibres embedded in matrix - has fibres, sealed at ends, filled with gas or fluid which are heatable by heating wires inserted in them in matrix or by external source

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Abstract of **DE4107617**

The fibres are filled with a gas or fluid prior to be placed in the matrix, and sealed at their ends. By heating, either inductively with heating wires in the hollow fibres or in the matrix, or from an external source e.g, with hot air, the increase in temp. results in a rise in inner pressure in the fibres, whereby the inner pressure is in equilibrium with the mechanical tensions in the fibre walls.

As the result of vol. expansion of the gas or fluid in the fibres, i.e, with a fibre 100cms long a length alteration of approx. 1mm occurs at a temp. rise of 1 deg. C., on account of the high elasticity module of the fibre high tensions occur. This in turn leads to the formation of a suitable matrix material with fibres in which there is increased rigidity.

ADVANTAGE - A fibre union matrix which is cheap to produce, and has variable strength properties.